

WHAT IS CLAIMED IS:

1. A wafer level package comprising:

5 a device wafer having a micro device, and bonding pads connected to the micro device, which are formed at one surface of the device wafer;

via connectors extending from the bonding pads to the other surface of the device wafer;

10 external bonding pads formed at the other surface of the device wafer and adapted to be connected to the bonding pads through the via connectors, respectively; and

a cap structure bonded to one surface of the device wafer so as to allow the micro device to be insulated and hermetically sealed.

15

2. The package as set forth in claim 1, wherein the cap structure has a cavity at a portion corresponding to the micro device.

20 3. The package as set forth in claim 1, wherein the cap structure is a silicon wafer or glass wafer.

4. The package as set forth in claim 1, further comprising:

a sealing member for bonding the cap structure to the device wafer.

5. The package as set forth in claim 4, wherein:

5       the device wafer further has a peripheral metal pad formed around a perimeter of one surface thereof to be bonded to the cap structure; and

          the sealing member is a metal material formed on the peripheral metal pad.

10

6. The package as set forth in claim 4, wherein the sealing member is a glass frit.

7. The package as set forth in claim 4, wherein the  
15       sealing member is a resin based adhesive.

8. The package as set forth in claim 1, wherein the sealing is performed by an anodic bonding technique.

20       9. The package as set forth in claim 1, wherein the cap structure has a dry film structure, the dry film structure having a well for receiving the micro device and bonding pads, and a passivation layer applied to an outer surface of the dry film structure.

10. The package as set forth in claim 9, wherein the passivation layer is a material selected from among the group consisting of an epoxy resin, thermosetting resin, metal and photosensitive resin.

5

11. A method for manufacturing a wafer level package, comprising the steps of:

a) preparing a device wafer in which a micro device, and bonding pads connected to the micro device are formed at  
10 one surface thereof;

b) forming via connectors extending from the bonding pads to the other surface of the device wafer;

c) bonding a cap structure to one surface of the device wafer so as to allow the micro device to be insulated  
15 and hermetically sealed; and

d) forming external bonding pads at the other surface of the device wafer, the external bonding pads being connected to the bonding pads through the via connectors, respectively.

20

12. The method as set forth in claim 11, wherein the step b) includes:

b-1) forming via holes having a predetermined depth in the bonding pads and hence the device wafer;

b-2) applying a conductive material to the via holes so as to form the via connectors; and

b-3) grinding the device wafer so as to allow the via connectors to be exposed to the outside from the other  
5 surface of the device wafer.

13. The method as set forth in claim 12, wherein the step b-3) is performed before or after the step c).

10 14. The method as set forth in claim 11, wherein the cap structure has a cavity at a portion corresponding to the micro device.

15 15. The method as set forth in claim 11, wherein the cap structure is a silicon wafer or glass wafer.

16. The method as set forth in claim 11, further comprising, after the step b), the step of:

20 e) forming a sealing member for use in bonding between the cap structure and the device wafer.

17. The method as set forth in claim 16, wherein:  
the device wafer has a peripheral metal pad formed around a perimeter of one surface thereof to be bonded to

the cap structure; and

the sealing member is a metal material formed on the peripheral metal pad.

5        18. The method as set forth in claim 16, wherein the sealing member is a glass frit.

19. The method as set forth in claim 16, wherein the sealing member is a resin based adhesive.

10

20. The method as set forth in claim 11, wherein the cap structure is prepared by a process comprising the steps of:

15        f) forming a dry film structure having a well for receiving the micro device and bonding pads, and

g) applying a passivation layer to an outer surface of the dry film structure.

20        21. The method as set forth in claim 20, wherein the step f) includes:

f-1) forming a side wall structure on one surface of the device wafer by the use of a dry film, the side wall structure having a height not less than that of the micro device so as to encompass a region where the micro device

and bonding pads are formed; and

f-2) forming a roof structure by the use of a dry film, the roof structure covering over the side wall structure.

5

22. The method as set forth in claim 21, wherein the passivation layer is a material selected from among the group consisting of an epoxy resin, thermosetting resin, metal and photosensitive resin.

10